



GUIDING SOLUTIONS IN THE
NATURAL ENVIRONMENT

Scoped Environmental Impact Study THP Hospital Redevelopment 100 Queensway West and 2250 Hurontario Street, Mississauga

Prepared For:

Trillium Health Partners

Prepared By:

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Date: Project:

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Appendix A. EIS Terms of Reference

1. Introduction

Beacon Environmental Limited (Beacon) was retained by Trillium Health Partners (THP) to prepare an Environmental Impact Study (EIS) in support of a Site Plan Application (currently referenced as PAM 21-323 W7) for redevelopment of the Mississauga Hospital Site located at 100 Queensway West in the City of Mississauga, herein referred as the subject site (**Figure 1**). The subject site is Part of Lot I, Range 3, Credit Indian Reserve and Part of Lot 16, Concession I, South of Dundas Street in the Geographic Township of Toronto. The subject site is bordered by Hurontario Street to the northeast, Queensway West to the northwest, Bronte College to the southeast, and Mary Fix Creek to the southwest. The subject site is approximately 9.0 ha (22.3 acres) in area and is occupied by several building and parking lots. The study area also includes the property at 2250 Hurontario Street.

The Mary Fix Creek corridor is part of the City's Natural Heritage System; therefore, an EIS is required by both the City of Mississauga and the Credit Valley Conservation (CVC) Authority to support the redevelopment application. In addition, portions of the subject site fall within the regulation limits of CVC and will require a permit in support of redevelopment.

A scoped EIS was submitted in August 2021 for a Site Plan Application (SP 21-156 W7) to construct a new parking garage on the property. The current EIS addresses the redevelopment of the remainder of the subject site and incorporates the findings of the previous EIS.

The purpose of this EIS is to demonstrate that the proposed redevelopment and site alteration will not have a negative impact on any natural heritage features or ecological functions associated with the property. Policy 19.4.5 of the City of Mississauga Plan lists an EIS as one of the types of studies that may be required a part of a complete application submission for an official plan amendment, rezoning, draft plan of subdivision or condominium or consent application. On November 11, 2021, City Planning issued an updated list of submission requirements to support this Site Plan Application, and confirmed that an EIS was required for the submission. Terms of Reference for the EIS were prepared by Beacon (December 17, 2020) and submitted to the City and CVC (**Appendix A**).

2. Policy Review

This section includes an overview of key federal, provincial, and local environmental policies, legislation, and regulations that may be relevant to this proposal. Key legislation, policies and regulations that have been reviewed and considered in preparing the EIS include the following:

- Federal *Fisheries Act*;
- Federal *Migratory Birds Convention Act*;
- Ontario *Endangered Species Act*;
- Provincial Policy Statement;
- Region of Peel Official Plan;
- City of Mississauga Official Plan;
- *Conservation Authorities Act* – Ont. Reg. 160/06; and
- Credit Valley Conservation – Watershed Planning and Regulation Policies.

2.1 Federal Fisheries Act

Fish and fish habitat are protected under the federal *Fisheries Act* (1985) which was last amended on August 28, 2019. The protection provisions of the *Fisheries Act* apply to all fish and fish habitat throughout Canada and are the authorities for the regulation of works, undertakings or activities that risk harming fish and fish habitat. Specifically, the protection provisions include two core prohibitions. One is against persons carrying on works, undertakings or activities that result in the “death of fish by means other than fishing” (subsection 34.4(1)), and the other is “harmful alteration, disruption or destruction of fish habitat” (subsection 35(1)). The protection provisions are applied in conjunction with other applicable federal laws and regulations related to aquatic ecosystems, including the *Species at Risk Act*.

Under subsection 35(1) a person may carry on such works, undertakings or activities without contravening this prohibition, provided that they are carried on under the authority of one of the exceptions listed in subsection 35(2), and in accordance with the requirements of the appropriate exception. In most cases, this exception would be Ministerial authorizations granted to proponents in accordance with the *Authorizations Concerning Fish and Fish Habitat Protection Regulations*.

Proponents are responsible for planning and implementing works, undertakings or activities in a manner that avoids harmful impacts, specifically the death of fish and the harmful alteration, disruption, or destruction of fish habitat. Where proponents believe that their work, undertaking or activity will result in harmful impacts to fish and fish habitat, DFO will work with proponents to assess the risk of their proposed work, undertaking or activity resulting in the death of fish or the harmful alteration, disruption or destruction of fish habitat and provide advice and guidance on how to comply with the *Fisheries Act*.

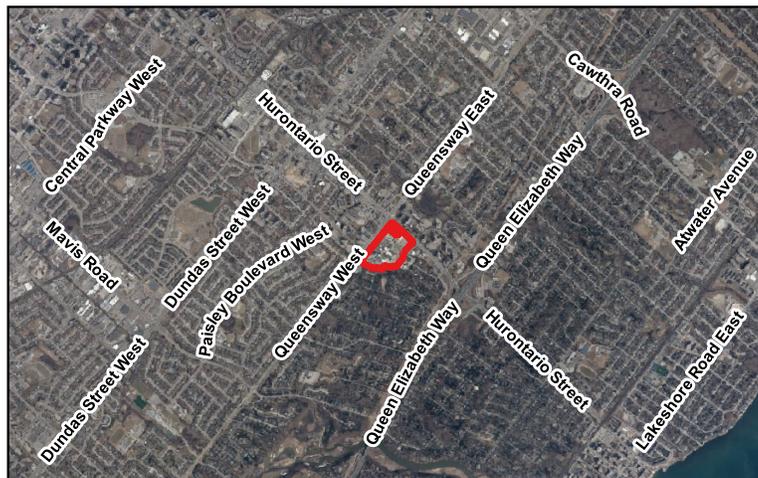
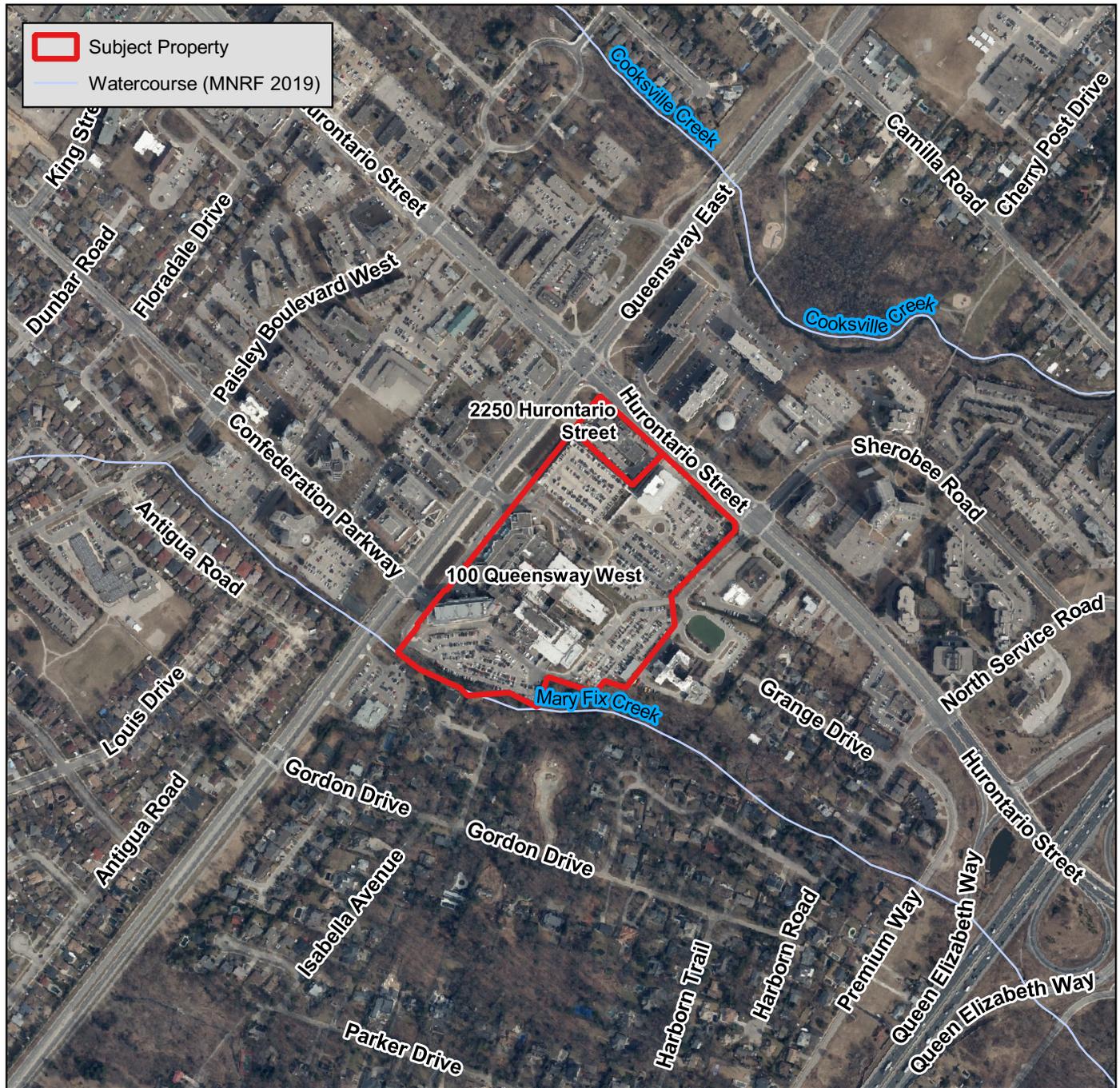
2.2 Endangered Species Act (2007)

The ESA protects species listed as threatened or endangered by the Committee on the Status of Species at Risk in Ontario (COSSARO). Under the 2008 ESA over 200 species in Ontario are identified as extirpated, endangered, threatened, or of special concern.

The purposes of the ESA are:

- To identify species at risk based on the best available scientific information, including information obtained from community knowledge and aboriginal traditional knowledge;
- To protect species that are at risk and their habitats, and to promote the recovery of species that are at risk; and
- To promote stewardship activities to assist in the protection and recovery of species that is at risk.

Section 9 of the ESA generally prohibits the killing or harming of a Threatened or Endangered species, as well as the destruction of its habitat. Section 10 of the ESA prohibits the damage or destruction of the habitat of all Endangered and Threatened species. A permit from MECP is required under Section 17(2)(c) of the ESA for any works proposed within the regulated habitat of a threatened or endangered species, identified during appropriate field study.



| | | |
|---|---------|--|
| Site Location | | Figure 1 |
| Environmental Impact Study (100 Queensway West & 2250 Hurontario Street, Mississauga) | | |
|  | | Project: 218499 Last Revised: December 2021 |
| Client: Trillium Health Partners | | Prepared by: BD Checked by: CS |
|  | 1:8,000 | Inset Map: 1:65,000 |
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2.3 Provincial Policy Statement (2020)

The 2020 version of the Provincial Policy Statement (PPS) replaced the 2014 PPS as of May 1, 2020.

The Provincial Policy Statement (PPS) (MMAH 2020) provides policy direction to municipalities on matters of provincial interest as they relate to land use planning and development. The PPS provides for appropriate land use planning and development while protecting Ontario's natural heritage. Development governed by the *Planning Act* must be consistent with the policy statements issued under the PPS. These are outlined in Section 2.1 - Natural Heritage, Section 2.2 – Water, and Section 3.1 - Natural Hazards of the PPS, and relevant sections from each are provided in the following pages.

The PPS includes policies that speak to the identification and protection of natural heritage systems, as well as levels of protection for the various components that comprise such systems. Some of these features are present in the Study Area and must be assessed in the context of these policies.

The policies specific to natural heritage are found in Section 2.1 of the PPS and are provided in their entirety below:

- 2.1.1 *Natural features and areas shall be protected for the long term.*
- 2.1.2 *The diversity and connectivity of natural features in an area, and the long-term ecological function and biodiversity of natural heritage systems, should be maintained, restored or, where possible, improved, recognizing linkages between and among natural heritage features and areas, surface water features and ground water features.*
- 2.1.3 *Natural heritage systems shall be identified in Ecoregions 6E & 7E, recognizing that natural heritage systems will vary in size and form in settlement areas, rural areas, and prime agricultural areas.*
- 2.1.4 *Development an site alteration shall not be permitted in:*
 - a. *Significant wetlands in Ecoregions 5E, 6E and 7E; and*
 - b. *Significant coastal wetlands.*
- 2.1.5 *Development an site alteration shall not be permitted in:*
 - a. *Significant wetlands in the Canadian Shield north of Ecoregions 5E, 6E and 7E;*
 - b. *Significant woodlands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Marys River);*
 - c. *Significant valleyland in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Marys River);*
 - d. *Significant wildlife habitat;*
 - e. *Significant areas of natural and scientific interest; and*
 - f. *Coastal wetlands in Ecoregions 5E, 6E and 7E that are not subject to policy 2.1.4(b).*

Unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions.

- 2.1.6 *Development and site alteration shall not be permitted in fish habitat except in accordance with provincial and federal requirements.*
- 2.1.7 *Development and site alteration shall not be permitted in habitat of endangered species and threatened species, except in accordance with provincial and federal requirements.*
- 2.1.8 *Development and site alteration shall not be permitted on adjacent lands to the natural heritage features and areas identified in policies 2.1.4, 2.1.5 and 2.1.6 unless the ecological function of the adjacent lands has been evaluated and it has been demonstrated that there will be no negative impacts on the natural features or on their ecological functions.*
- 2.1.9 *Nothing in policy 2.1 is intended to limit the ability of agricultural uses to continue.*

In terms of implementation, identification of the various natural heritage features noted above is a responsibility shared by the Ministry of the Environment, Conservation, and Park (MECP), Ministry of Natural Resources and Forestry (MNR) and the municipal planning authority. The MECP is responsible for the confirmation of habitat of endangered species and threatened species, and for its regulation (under the Act as described above). The MNR is responsible for the identification of Provincially Significant Wetlands (PSWs) and Areas of Natural and Scientific Interest (ANSIs). Local and regional planning authorities are responsible for the identification of Significant Woodlands, Significant Valleylands, and Significant Wildlife Habitat, with support from applicable guidance documents (i.e., Natural Heritage Reference Manual, OMNR 2010; Significant Wildlife Habitat Technical Guidelines, OMNR 2000; Significant Wildlife Habitat Criteria for Ecoregion 6E or 7E, MNR 2015). Local and regional planning authorities in southern Ontario also typically work with their local conservation authority to identify and confirm non-PSWs that may have significance at the local or regional level. As described in **Section 2.1** above, identification and verification of fish habitat is now self-regulated although enforcement of the related policies and regulations is still managed by MNR and regulated by DFO.

In areas where significant natural heritage features have been identified by the appropriate agency or planning authority, the boundaries of such features can typically be refined through site-specific studies undertaken as part of the planning process, with input from the responsible agency and/or planning authority.

2.4 Regional Municipality of Peel Official Plan (2018, Office Consolidation)

The Region of Peel Official Plan is intended to provide a strategic and holistic framework for regional planning through sustainable development and the integration of environmental, social, economic and cultural imperatives. The Peel Region Official Plan contains policies aimed at protecting, maintaining, and restoring a Greenlands System consisting of “Core Areas”, “Natural Areas and Corridors (NAC’s)”, and “Potential Natural Areas and Corridors (PNAC’s)”. Key elements of the Region’s Greenlands System include the following:

- Areas of Natural and Scientific Interest (ANSI);
- Environmentally Sensitive or Significant Areas (ESA);
- Escarpment Natural Areas;

- Escarpment Protection Areas;
- Fish and wildlife habitat;
- Habitats of threatened and endangered species;
- Wetlands;
- Woodlands;
- Valley and stream corridors;
- Shorelines;
- Natural lakes;
- Natural corridors;
- Groundwater recharge and discharge areas;
- Open space portions of the Parkway Belt West Plan; and
- Other natural features and functional areas.

The above key elements are to be interpreted, identified and protected in accordance with the policies of the Regional Official Plan.

The following schedules and figures were reviewed to determine which sections of the Official Plan pertain to the subject site:

- Schedule D – Regional Structure illustrates that the subject site is within the Conceptual Urban Growth Centre;
- Schedule D3 - Greenbelt Plan Area Land Use Designations demonstrates the subject site is outside of the Greenbelt Plan Area without any river valley connections outside of the Greenbelt; and
- Schedule D4 - The Growth Plan Policy Areas in Peel depicts the subject site as within the Urban Growth Centre (as defined by Mississauga and Brampton).

2.4.1 Core Areas

Core Areas represent those features and areas that are considered to be significant at the provincial and regional levels. They generally correspond with significant features and areas listed in the PPS.

Core Areas of the Greenlands System are mapped on Schedule A of the ROP. No Core Areas are depicted on or in proximity to the subject site.

2.4.2 Natural Areas and Corridors (NAC) and Potential Natural Areas and Corridors (PNAC)

Natural Areas and Corridors (NAC) include:

- Evaluated non-provincially significant wetlands;
- Woodlands meeting one or more of the criteria in Table 1 of the ROP;
- Significant wildlife habitat;
- Fish habitat;
- Regionally significant life science Areas of Natural and Scientific Interest;
- Provincially significant earth science Areas of Natural and Scientific Interest;
- Escarpment Protection Areas of the Niagara Escarpment Plan; and

- The Lake Ontario shoreline and littoral zone and other natural lakes and their shorelines.

Potential Natural Areas and Corridors (PNAC) include:

- Unevaluated wetlands;
- Cultural woodlands and cultural savannahs within the Urban System and Rural Service Centres meeting one or more of the criteria in Table 1 of the ROP;
- Any other woodlands greater than 0.5 hectares (1.24 acres);
- Regionally significant earth science Areas of Natural and Scientific Interest;
- Sensitive groundwater recharge areas;
- Portions of Historic shorelines;
- Open space portions of the Parkway Belt West Plan Area;
- Potential ESA's identified as such by the conservation authorities; and
- Any other natural features and functional areas interpreted as part of the Greenlands System Potential Natural Areas and Corridors, by the individual area municipalities in consultation with the conservation authorities.

NAC's and PNAC's represent natural features and areas that are considered locally important. Table 1 of the Region's Official Plan lists criteria and thresholds for the identification of Core, Natural Areas and Corridors, and Potential Natural Areas and Corridors woodlands. Table 2 of the Region's Official Plan lists criteria and thresholds for the identification of core valley and stream corridors.

Regional policies pertaining to NAC's and PNAC's defer their interpretation, protection, restoration, enhancement, proper management and stewardship to local municipalities. Section 2.3.2.16 is the Region's policy to direct the area municipalities, in consultation with the conservation authorities, to continue to refine the boundaries of valley and stream corridors; establish setbacks and buffers for watercourses, and valley and stream corridors:

"It is the policy of Regional Council to: Define the Greenlands System in Peel as being made up of:" NACs and PNACs "which will be interpreted, protected and shown as appropriate in the area municipal plans" and, "reference should be made to the area municipal official plans and related documents for a detailed interpretation of the location and extent of Core Areas", NACs and PNACs. For this reason, the Region does not map NACs or PNACs in the Regional OP.

Additionally, in their comments on the application, the Region has deferred comments regarding natural heritage protection to CVC.

2.5 City of Mississauga Official Plan (2019)

The City of Mississauga Official Plan has undergone several consolidations to include amendments and Ontario Municipal Board (OMB)/Local Planning Appeal Tribunal (LPAT) decisions. The current OP in effect includes amendments as of November 22, 2019, however until all original appeals are resolved, both the Mississauga Plan (2003) and Mississauga Official Plan (2019) will be considered as they are both partially in effect.

The following schedules and figures of the Official Plan were reviewed to determine the sections that pertain to the subject site including the following:

- Schedule 1 – Urban System depicts the subject site as within a Downtown Intensification Corridor;
- Schedule 1a – Green System depicts the subject site within and adjacent to the City’s Green System;
- Schedule 2 – Intensification Areas presents the subject lands within the corridor and within 500 m of two major transit station areas;
- Schedule 3 – Natural Heritage System identifies the subject site as being adjacent to a Residential Woodland block;
- Schedule 4 – Parks and Open Space identifies the property as being adjacent to Public and Private Open Space; and
- Schedule 10 - Land Use Designations identifies the property within the Downtown area, as a Hospital and adjacent to Natural Hazard lands associated with the valley system to the southwest.

Section 6.3 of the Mississauga Official Plan contains policies pertaining to the protection of the Green System. The Green System is composed of 1) the Natural Heritage System, 2) the Urban Forest, 3) Natural Hazard Lands; and 4) Parks and Open Spaces.

As per policy 6.3.1, the city will give priority to actions that protect, enhance, restore and expand the Green System. Policy 6.3.7 states that buffers are intended to perform functions such as woodland interior enhancement via native species plantings, attenuate stormwater runoff and reduce the erosion of valley slopes.

As per Policy 6.3.8, buffers will be determined on a site-specific basis as part of an EIS to the satisfaction of the City and appropriate conservation authority. Per 6.3.10, the exact limit of components of the Natural Heritage System will be determined through site specific studies/EIS. Minor refinements to the boundaries of the Natural Heritage System may occur through an EIS or other appropriate studies accepted by the City without an official plan amendment. Natural Heritage System Policies are applicable to the Urban Forest (6.3.39).

Components of the Green System that overlap with the subject site include the Natural Heritage System, Natural Hazard Lands, and the Urban Forest. Policies pertaining to each of these Green System components are discussed below, except the Urban Forest. The Urban Forest refers to all of the trees in the City.

2.5.1 Natural Heritage System

The Natural Heritage System consists of 1) Significant Natural Areas, 2) Natural Green Spaces, 3) Special Management Areas, 4) Residential Woodlands, and 5) Linkages.

The exact limit of components of the Natural Heritage System will be determined through site specific studies such as an Environmental Impact Study. Minor refinements to the boundaries of the Natural Heritage System may occur through Environmental Impact Studies or other appropriate studies accepted by the City without and official plan amendment.

Based on examination of City mapping, CVC discussion and field investigations, it was determined that a Significant Natural Area (significant woodland) and a Residential Woodland occur on site. The policies

of these features are given below; Natural Green Spaces, Special Management Areas and Linkages do not occur on site.

2.5.1.1 Significant Natural Areas

Significant Natural Areas include one or more of the following features:

- Provincially or regional significant life science areas of natural and scientific interest (ANSI);
- Environmentally sensitive or significant areas;
- Habitat of threatened species or endangered species;
- Fish habitat;
- Significant wildlife habitat;
- Significant woodlands;
- Significant wetlands, including Provincially Significant Wetlands (PSW), coastal wetlands, and other wetlands greater than 0.5 hectares; and
- Significant valleylands, including the main branches, major tributaries and other tributaries and watercourse corridors draining directly to Lake Ontario including the Credit River, Etobicoke Creek, Mimico Creek and Sixteen Mile Creek.

According to Policy 6.3.27, development and site alteration within or adjacent to a Significant Natural Area will not be permitted unless all reasonable alternatives have been considered and any negative impacts minimized through appropriate mitigation measures as determined by an Environmental Assessment or Environmental Impact Study. Negative impacts that cannot be avoided are to be mitigated through restoration and enhancement to the greatest extent possible.

The criteria for significant woodland status are presented in Section 6.3.12(f) and include both size, width, function, and proximity criteria. The woodland at the southern corner of the site is part of a larger woodland that exceeds 0.5 ha, is over 40 m in width, and is within 30 m of a watercourse (Credit River tributary) and are thus deemed to be significant. Significant Woodlands are considered Significant Natural Areas in the City of Mississauga.

2.5.1.2 Residential Woodlands

The City of Mississauga states that:

6.3.17 Residential Woodlands are areas, generally in older residential areas, with large lots that have mature trees forming a fairly continuous canopy and minimal native understorey due to the maintenance of lawns and landscaping.

6.3.18 Lands within Residential Woodlands will be subject to Site Plan Control.

6.3.19 Development proposals and site alteration for lands within a Residential Woodland will have regard for how existing tree canopy and understorey are protected, enhanced, restored and expanded.

There are no prescribed buffers or setbacks for Residential Woodlands.

2.5.2 Natural Hazard Lands

Natural Hazard Lands are generally associated with valley and watercourse corridors and the Lake Ontario shoreline. These areas are generally unsafe for development due to naturally occurring processes such as flooding and erosion.

Policy 6.3.47 states that:

Development and site alteration will not be permitted within erosion hazards associated with valleyland and watercourse features. Where development or site alteration is proposed adjacent to erosion hazards, an appropriate buffer must be applied to the satisfaction of the City and conservation authority.

Schedule 3 mapping (Natural System) show natural hazard lands as occurring alongside Mary Fix Creek only beside the downstream half of the property. We have thus deferred to the CVC for natural hazards relevant to the property.

There is a meander belt and floodline associated with the Mary Fix Creek on the west side of the property (**Figure 2**).

2.5.3 City of Mississauga Natural Areas Survey

The Natural Areas Survey (NAS) was a study undertaken to identify and inventory the natural areas within the City of Mississauga and included reviewing existing reports, site visits, public survey and database updates (North South Environmental Inc. (NSEI) and City of Mississauga. 2013). The intention of this is to maintain the long-term ecological integrity of the remaining natural areas and that this shall have primacy over all other considerations to the extent that is feasible. A number of recommendations of the NAS are incorporated into the City's OP.

The subject site is directly adjacent to the CV2 Natural Area which is classified as a Residential Woodland and totals just under 50 ha in area. This area is inclusive of portions of Mary Fix Creek. The corresponding fact sheet for area CV2 (2017) notes the area to be in fair condition with marked disturbance by way of domestic activities including trails, structures, dwellings and gardens which are considered acceptable within a residential woodland however would be considered disturbances in other types of natural areas. Household dumping is prevalent and noise from the adjacent highway is extensive, in addition to numerous invasive plant species.

The management needs of CV2 are identified as landowner contact to encourage management, as well as efforts to control invasive species and naturalizing landscaped areas where possible.

2.6 Credit Valley Conservation (CVC) Authority Policies and Regulations

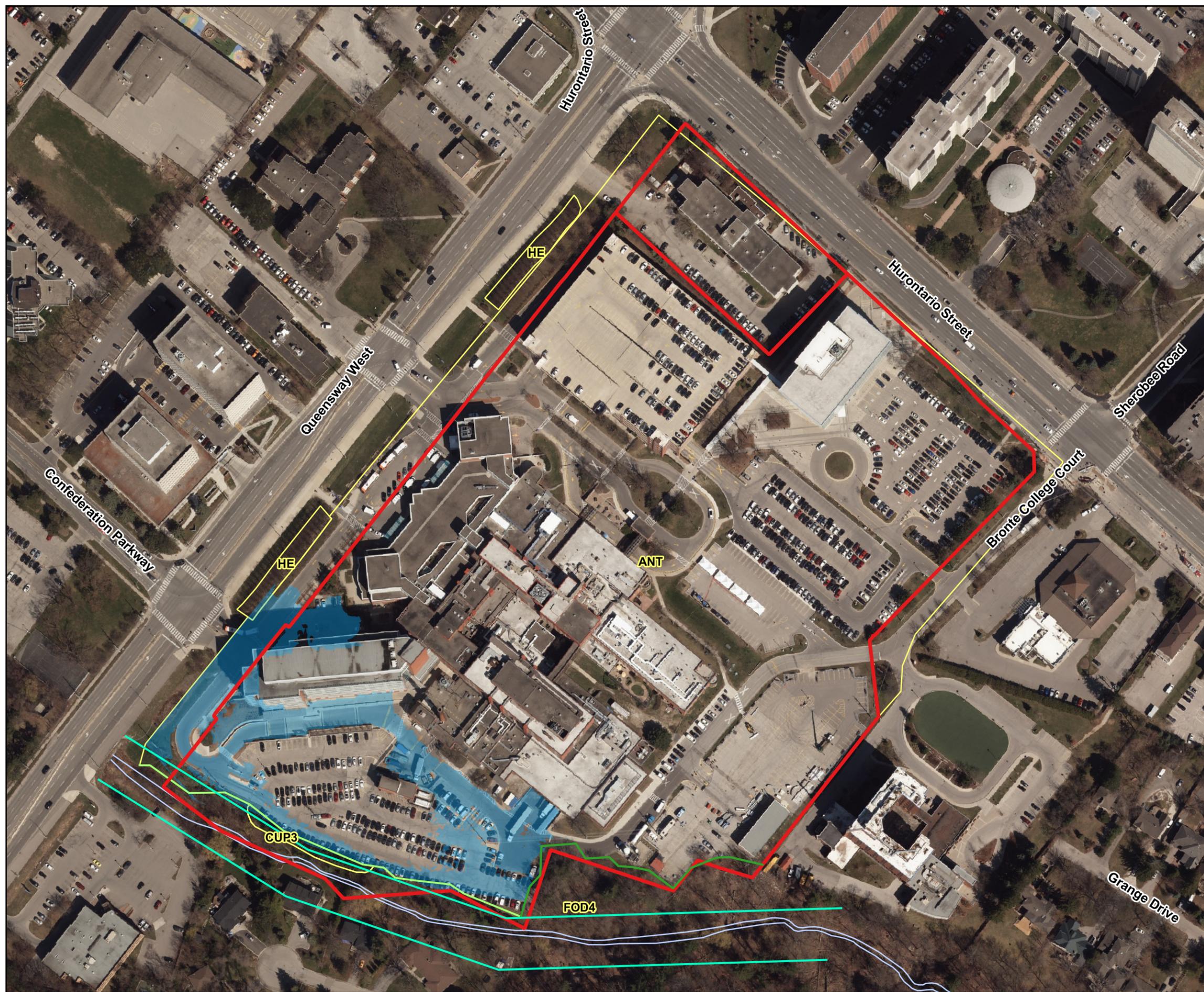
Under *Ontario Regulation 160/06 of the Conservation Authorities Act*, Credit Valley Conservation Authority (CVC) regulates development in and adjacent to natural hazard lands including creeks, valleylands, shorelines, and wetlands. The subject site is regulated due to the presence of the valley slope associated with the Credit River.

Development within the flood limit of a watercourse is not allowed. CVC will generally require that all watercourses remain in their natural state with respect to development proposals. Any development proposed within the “regulated” area adjacent to a watercourse or wetland (evaluated or unevaluated) would trigger the need for an EIS that must demonstrate that the no interference to the feature will occur before a permit is issued. The definition of a watercourse generally captures any feature that is “an identifiable depression in the ground in which a flow of water regularly or continuously occurs”, regardless of the drainage area (CAA 1990).

As identified in Section 6.2.1 - Development Limits of the CVC *Watershed Planning and Regulation Policies* document (2010), the following applies.

- a) *CVC will not support the creation of new lots through plan of subdivision or consent that extend into, or fragment ownership of, the natural heritage system, including natural heritage features and areas, significant natural areas, hazardous land and erosion access allowances, in consideration of the long term management concerns related to risks to life and property and natural heritage protection.*
- b) *In addition to policy 6.2.1 a), CVC will recommend that lots created through plan of subdivision or consent are set back a minimum of whichever is the greatest of the following buffers:*
 - i. *10 metres from the limit of flood hazards;*
 - ii. *10 metres from the limit of erosion hazards;*
 - iii. *10 metres from the limit of dynamic beach hazard;*
 - iv. *10 metres from the drip line of significant woodlands;*
 - v. *10 metres from the limit of other wetlands;*
 - vi. *30 metres from the limit of provincially significant wetlands;*
 - vii. *30 metres from the bankfull flow location of watercourses; and/or*
 - viii. *A distance to be determined through the completion of a comprehensive environmental study or technical report, to the satisfaction of CVC, from the limit of the following:*
 - a. *Significant wildlife habitat;*
 - b. *Significant habitat of threatened species and endangered species;*
 - c. *Regionally and provincially significant life science ANSIs;*
 - d. *ESAs; and/or*
 - e. *Significant habitat of species of conservation concern.*
- c) *Notwithstanding policy 6.2.1 b), CVC may recommend lots be set back a distance other than those identified in 6.2.1 b) based on the results of a comprehensive environmental study or site specific technical report completed.*

CVC may recommend setbacks other than those identified [above] based on the results of a comprehensive environmental study or site specific technical report completed to the satisfaction of CVC, and consistent with provincial and municipal policy.



Environmental Impact Study (100 Queensway West & 2250 Hurontario Street, Mississauga)

Legend

- Subject Property
- ELC Communities
- Watercourse
- Staked Natural Feature Limit
Dripline of Residential Woodland
(CVC August 21, 2019)
- Staked Natural Feature Limit
Dripline of Woodland (CVC August 21, 2019)
- Floodline (CVC 2021)
- Meander Belt (to be confirmed)

| ELC Code | Community Description |
|----------|------------------------------|
| ANT | Anthropogenic |
| CUP3 | Coniferous Plantations |
| FOD4 | Dry - Fresh Deciduous Forest |
| HE | Hedgerow |



Project: 218499
Last Revised: December 2021

Client: Trillium Health
Partners

Prepared by: BD
Checked by: CS



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3. Methodology

In addition to the policy review discussed in the preceding sections, field investigations were conducted by Beacon ecologists in the spring and summer of 2019 to characterize site conditions that were present at different times of the year. The scope of work was developed following discussions with the City of Mississauga and CVC staff (**Appendix A**).

3.1 Vegetation Community Mapping

Vegetation communities on the subject site were mapped and described following the protocols of the Ecological Land Classification (ELC) system for Southern Ontario (Lee *et al.* 1998). This is the standard method used for describing vegetation communities in southern Ontario, which involved delineating vegetation communities on aerial photos of the property and recording pertinent information on the community structure and composition. A checklist of all flora species observed on subject site as well as their status was compiled.

3.2 Breeding Bird Surveys

Breeding bird surveys took place on May 31 and June 28, 2019 between 5:00 am and 8:00 am on days with low to moderate winds (0-3 on the Beaufort Scale), no precipitation, and temperatures within 5°C of the normal average temperature. The entire site was walked such that all singing birds could be heard or observed and recorded. That is, the surveyor was within 50 to 100 m of all parts of the site depending on habitat. All birds heard and seen were recorded in the location observed on an aerial photograph of the site.

3.3 Species at Risk Habitat Assessment

During all field surveys, ecologists searched for the presence of Species at Risk (SAR) habitat. A search for SAR flora, including Butternut (*Juglans cinerea*) was conducted as part of the vegetation community survey. In addition, surveys for SAR birds were completed as part of the bird surveys described above.

3.4 Feature Staking

The limits of natural features were staked on August 21, 2019 by Credit Valley Conservation (CVC) staff. City of Mississauga and landowner representatives were also present as follows:

- City of Mississauga: Michael Hynes; Katherine Culbert; Sally Lepage; Ashley Rivet;
- Credit Valley Conservation: Shari Faulkenham; Maricris Marinas;
- Dialog (Planning and Design): Cameron Palmer;
- Beacon (Environmental Consultant): Rosalind Chaundy; and
- WSP (surveyors): Unknown.

Enhancement opportunities were also discussed with CVC and the City staff while the project team was on site together.

3.5 Meander Belt Study

The meander belt along a portion of Mary Fix Creek had previously been established during an assessment by Parish Geomorphoc (February 2012), which delineated a meander belt width of 26.4 m for the reach associated with an adjacent property at 2167 Gordon Drive. Through consultation between the Project Geomorphologist and CVC, it was agreed that the findings of this previous assessment could be applied to Mary Fix Creek for the subject site in lieu of a site-specific meander belt width study. A follow-up meeting was held with CVC on December 7, 2021, in which it was agreed that further confirmation of the meander belt width would be completed by the Project Geomorphologist.

4. Existing Conditions

4.1 Meander Belt

The width of the meander belt along this reach of Mary Fix Creek (MF-2) was applied based on a previous geomorphic assessment completed by Parish Geomorphoc (2012), as agreed to by CVC. Following standard protocols (TRCA, 2004; CVC 2014), the meander belt width of 26.4 m was centred on the meander axis of the reach adjacent to the subject property, as illustrated on **Figure 2**. Further confirmation of the meander belt width adjacent to the subject property is being completed by the Project Geomorphologist. Any refinements will be subject to review and approval by CVC.

4.2 Watercourses and Fish Habitat

The subject site is located within the Credit River watershed. Mary Fix Creek, a permanent tributary of the Credit River flows outside the southwest property border within a narrowly wooded area. Mary Fix Creek formerly flowed into Lake Ontario but now drains into the Credit River just upstream of Lake Ontario (CVC 2014).

Mary Fix Creek is classified as having a warm thermal regime (ARA watercourse layer by MNRF (2010)). The MNRF ARA layer also includes the following fish species for Mary Fix Creek: Brown Bullhead (*Ameiurus Nebulosus*) and Goldfish (*Carassius auratus*). Brown Bullhead is a native species in Ontario. Goldfish is an invasive species in Ontario. Both species thrive in slow warmer water. These species were most likely captured close to the confluence with the Credit River. CVC reports that no fish have been observed in Mary Fix Creek during sampling (Clayton, 2011), but that there are likely fish present up to 300 m from the confluence with the Credit River.

Under existing conditions, runoff from the site is conveyed either by overland sheet flow west into Mary Fix Creek or into existing catch basins that service the existing hospital and surrounding parking lots. These flows ultimately connect downstream and are discharged into the Creek via two existing corrugated steel pipes in the south corner of the site (MTE 2021).

4.3 Vegetation Communities

The vegetation communities on the subject site are illustrated on **Figure 2**.

Much of the subject site was characterized as “Anthropogenic (ANT)” based on the dominance of paved surfaces and hospital and long-term care buildings (**Photograph 1**). Vegetation is limited to lawn, landscaping plantings, and scattered trees. Two “Hedgerow (HE)” units were also delineated along The Queensway, which are comprised of planted Little Leaf Linden (*Tilia cordata*). Neither of these vegetation types are defined under the ELC system (Lee et al. 1998) and are located outside the subject site within the hydro corridor right-of-way.

Vegetation associated with Mary Fix Creek was classified as a “Dry-Fresh Deciduous Forest (FOD4)”. This community enters the subject site along the southern boundary and represents a relatively small portion of a much larger woodland feature that is off-site. Botanical composition was varied here and included predominantly deciduous trees such as Red Oak (*Quercus rubra*), Manitoba Maple (*Acer platanoides*), Manitoba Maple (*Acer negundo*), Siberian Elm (*Ulmus pumila*), Norway Spruce (*Picea abies*) and Basswood (*Tilia americana*) along with numerous dead White Ash (*Fraxinus americana*). The shrub layer contains species such as Tatarian Honeysuckle (*Lonicera tatarica*), European Buckthorn (*Rhamnus cathartica*) and Staghorn Sumac (*Rhus typhina*) where the canopy is less dense, and a number of invasive species were noted including Dog-strangling Vine (*Cynanchum rossicum*) and Periwinkle (*Vinca minor*). The vegetation is a mix of native and non-native species. See **Photograph 2**.

A conifers plantation (CUP3) consisting of young to mid-aged White Spruce is located along the south/west property line.



Photograph 1. View of Anthropogenic Existing Hospital Area (August 7, 2019)



Photograph 2. FOD4 Community (August 7, 2019)

4.3.1 Breeding Birds

A total of eight bird species were observed demonstrating breeding behaviour on the subject site. The following species were observed:

- European Starling (*Sturnus vulgaris*);
- Cedar Waxwing (*Bombycilla cedrorum*);
- Chipping Sparrow (*Spizella passerina*);
- House Sparrow (*Passer domesticus*);
- Song Sparrow (*Melodia melospiza*);
- American Robin (*Turdus migratorius*);
- Rock Pigeon (*Columba livia*); and
- Northern Cardinal (*Cardinalis cardinalis*).

The species suite observed during the 2019 breeding bird season was composed of species typically occurring in urban areas. The European Starling was by far the most abundant species with approximately 20 to 25 pairs observed throughout the subject site, along with successfully fledged young. These birds were observed foraging throughout the subject site and are likely exploiting nesting opportunities on the structures present. The next most abundant species observed were House Sparrow and Rock Pigeon with approximately between six and ten pairs throughout the subject site. All three of these species are non-native. Other species such as Northern Cardinal, Mourning Dove and Cedar Waxwing appeared to be breeding in the landscaped areas.

Area-sensitive birds require larger tracts of suitable habitat in which to breed or have higher breeding success in larger areas of suitable habitat. No area-sensitive birds were observed.

No species ranked as S1 through S3 (Critically Imperiled through Vulnerable) by the province or species protected under the ESA were encountered. A number of Chimney Swift (*Chaetura pelagica*) were observed foraging on the subject site; however, no evidence of breeding was noted. Staff observed these species at length to determine if any had entered the suitable breeding opportunities on the subject site, and this did not occur.

4.4 Endangered and Threatened Species

The MNRF was contacted on March 18, 2019 to obtain existing records for species on the subject site to which the ESA applies. At the time of submission, the MNRF had not issued a formal response beyond an automated e-mail response (received on March 20, 2019). It should be noted that in April 2019, the responsibility for overseeing the ESA was transferred from the MNRF to the Ministry of the Environment, Conservation and Parks (MECP). Since that date, the MECP places the responsibility of screening for Species at Risk habitat on landowners and their consultants. The following is a summary of habitat for threatened and endangered species associated with the subject site based on a background review and field investigations.

Vegetation

A targeted search for Butternut trees was conducted. This species is a provincially and nationally endangered tree species that, while still relatively common in southern Ontario, has been listed because the population has been declining due to the presence of a Butternut Canker disease.

No Butternut trees or botanical species protected under the ESA were present on the property.

Birds

Breeding bird surveys were undertaken in 2019 and revealed the presence of common and urban tolerant generalist species exclusively. No birds that are protected under the ESA were recorded as breeding on the subject site. As discussed in section 4.3.1, Chimney Swift (Threatened) were observed foraging but were not breeding on the subject site.

Based on Google Streetview, the chimney on the building located at 2250 Hurontario appears to be capped and thus not suitable Chimney Swift. This will be verified through a future site visit.

Endangered Bats

There are four species of bats listed as endangered in Ontario: Little Brown Myotis (*Myotis lucifugus*), Tri-colored Bat (*Perimyotis subflavus*), Eastern Small-footed Myotis (*Myotis leibii*), and Northern Myotis (*Myotis septentrionalis*). The *Survey Protocol for Species at Risk Bats within Treed Habitats Little Brown Myotis, Northern Myotis & Tri-Colored Bat* (MNRF 2017) includes three steps for identifying habitat of Endangered bats:

Step 1:

Complete ELC mapping to determine if any coniferous, deciduous or mixed wooded ecosite, including treed swamps, that includes trees at least 10 cm diameter-at-breast height (dbh) are present. If suitable habitat is to be impacted by a proposed activity, project proponents should proceed to step 2.

Step 2:

Conduct surveys for suitable bat maternity roost trees within the coniferous, deciduous or mixed wooded ecosites. Trees with cavities, loose bark, and/or cracks may support maternity roost habitat for Little Brown Myotis and Northern Myotis (MNRF 2017). In addition, according to the MNRF guidelines (2017), oak trees and, to a lesser extent, maple trees are preferred habitat for Tri-colored Bat and the following trees should be documented:

- Any oak tree >10cm DBH;
- Any maple tree >10cm DBH if the tree includes dead/dying leaf clusters; and
- Any maple tree >25cm DBH.

Step 3:

Conduct acoustic surveys within each ELC ecosite determined to be suitable maternity roost habitat in Step 1 to confirm presence/absence of Endangered bat species. The optimal locations of acoustic detectors within the ELC communities are determined based on the data collected in Step 2.

Based on ELC mapping (Step 1), a deciduous forest community was identified on the south/west side of the subject property (**Figure 2**), which represents potential habitat for endangered bats. As this area is being protected, detailed studies for SAR bats (steps 2 and 3) were not undertaken.

Aquatic

There are no records of aquatic Species at Risk (fish or mussels) associated with Mary Fix Creek based on a review of DFO Species at Risk Mapping or query of MNRF Aquatic Resource Area (ARA) data. The Mary Fix Creek does not support Redside Dace habitat (an Endangered fish species that is found in some Greater Toronto Area watercourses).

4.5 Other Wildlife

Any wildlife species observed on the subject site during field investigations not considered within the preceding sections of this report were recorded as incidental observations.

Mammal species documented from the property include Eastern Cottontail (*Sylvilagus floridana*) and Gray Squirrel (*Sciurus carolinensis*). Other common mammal species that are likely present on and adjacent to the subject site include Raccoon (*Procyon lotor*), Striped Skunk (*Mephitis mephitis*) and Red Fox (*Vulpes vulpes*).

5. Summary of Natural Heritage Features

The findings of the background review and field investigations have been relied upon to determine if the subject site supports any of the natural heritage components recognized under the PPS, as well as the Region's and City's Official Plans.

Habitat for Threatened or Endangered Species

As discussed in the preceding section, the forested community associated with the subject property and adjacent lands may provide maternity roost habitat for endangered bats.

Significant Wetlands

There are no wetlands on the subject property.

Significant Woodlands

The limit of a valleyland vegetation on the southwest side of the property was staked on August 21, 2019 with CVC and the City.

Significant woodlands are defined by the City of Mississauga as any woodland greater than 0.5 hectares (ha) that:

- Supports old growth trees (greater than or equal to 100 years old);
- Supports a significant linkage function as determined through an Environmental Impact Study approved by the City in consultation with the appropriate conservation authority;
- Is located within 100 metres of another Significant Natural Area supporting a significant ecological relationship between the two features;
- Is located within 30 metres of a watercourse or significant wetland; or
- Supports significant species or communities.

On this basis, part of the woodland at the southern corner (FOD4) has been considered a significant woodland based on size, width, linkage function, and proximity to a watercourse. This was agreed to during the site visit.

During the site visit with City and CVC staff, northern portion of the treed vegetation was considered a 'Residential Woodland'. The decision was based on the fact that this portion of treed dripline:

- Is within a very narrow strip of vegetation (variably about 10 to 20 m wide);
- Has been subject to greater degrees of anthropogenic disturbance than the other portion (e.g. some areas are part of tended gardens); and
- Contains rows of planted spruce.

Additionally, the whole of the wooded area adjacent to the property is shown as Residential Woodland on City of Mississauga Official Plan mapping.

Significant Wildlife Habitat

The Significant Wildlife Habitat Technical Guidelines (MNR 2000) outline four categories of Significant Wildlife Habitat (SWH):

- Seasonal Concentration Areas of Animals;
- Rare Vegetation Communities or Specialized Habitat For Wildlife;
- Habitat for Species of Conservation Concern; and
- Animal Movement Corridors.

Within each of these categories, there are multiple types of SWH, each intended to capture a specialized type of habitat that may or may not be captured by other existing feature-based categories (e.g., significant wetlands, significant woodlands).

Based on the background review and field investigations, the forested area to the south/west may provide maternity roost habitat for non-Endangered bats (seasonal concentration area).

Significant Valleyland

The City of Mississauga Official Plan criteria for significant valleylands reads as follows:

6.3.12 g significant valleylands are associated with the main branches, major tributaries and other tributaries and watercourse corridors draining directly to Lake Ontario including the Credit River, Etobicoke Creek, Mimico Creek and Sixteen Mile Creek.

Based this definition, most natural watercourse corridors in Mississauga would qualify as significant valleyland, including the reach of Mary Fix Creek through the subject site as it is a tributary to the Credit River.

Fish Habitat

The Mary Fix Creek is considered warmwater Fish Habitat (either direct or indirect).

Summary

In summary, the riparian area associated with Mary Fix Creek adjacent to the property supports the following natural heritage features:

- Significant Woodland;
- Significant Valleyland;
- Fish Habitat; and
- Potential bat maternity roost habitat.

These features are confined to the southwestern portion of the property and the remainder of the land is occupied by anthropogenic and impervious space which does not host any natural heritage features.

6. Natural Environment Constraints

All natural heritage features and natural hazards are associated with the Mary Fix Creek corridor which is confined to the southwestern portion of the property. The identified natural heritage, erosion hazard, and floodline constraints are depicted on **Figure 3**.

The staking exercise that took place on August 21, 2019 defined the limits of the wooded area in the south/west portion of the property. This area includes both Residential Woodlands and Significant Woodlands, as discussed in Section 5. A 10 m woodland buffer was applied to the Significant Woodland portion of the staked feature limit as per the policies of CVC. There are no required buffers to Residential Woodland.

The meander belt of Mary Fix Creek is an erosion hazard constraint to which a 10 m setback has been applied as per CVC policies. The width of the meander belt along this reach of Mary Fix Creek was determined based on a previous geomorphic assessment completed by Parish Geomorphic (2012) as agreed to by CVC. Following standard protocols (TRCA, 2004; CVC 2014), the meander belt width of 26.4 m was centred on the meander axis of the reach adjacent to the subject property.

Based on the existing developed character the subject site, the buffers and setbacks do not represent a definitive limit of development as discussed further in the following section.

The existing Mary Fix Creek floodplain overlaps part of the existing hospital grounds. It is Beacon's understanding that at the time of the demolition of the hospital, the intent will be to modify the grading and improve the location of the floodline in terms of its interaction with hospital facilities (Stantec 2021).

7. Proposed Development

The proposed re-development of the subject site consists of:

- A new 24-storey hospital (with mechanical penthouse and three basement levels) on the east side of the property facing northeast;
- A expanded 8-storey parkade (with below ground connection) in the south portion; and
- Retention of the J-Wing of the existing hospital. The remainder the existing hospital will be demolished. (**Figure 4**).

The Gross Floor Area is proposed to be 208,046m² (2,239,389ft²) (including existing J-Wing). Approximately 2,884 parking spaces are proposed. The inner hospital road network will be revised from the current configuration and access will remain on Hurontario Street, the Queensway West, and Bronte College Court.

The site will be serviced by upgrading connections to existing municipal sanitary and water supply infrastructure along Queensway West and Hurontario Street.

The subject site has six (6) existing drainage outlets. These include two (2) to Mary Fix Creek, two (2) to the Queensway West, one (1) to Hurontario Street, and overland flow to Bronte College Crescent

(Stantec 2021). The outlets to Mary Fix Creek are on private property and may need to be upgraded and/or relocated to ensure conformity with current standards and requirements of CVC. It is understood that further consultation with the City and CVC regarding the existing outlets to Mary Fix Creek is required.

The proposed grading and servicing plans for the subject site have been prepared to closely replicate existing site stormwater servicing patterns with improvements in stormwater quantity control, quality treatment and retention through the phased construction process (Stantec 2021).

8. Potential Impacts and Mitigation

The following is a discussion of the potential direct and indirect impacts that the proposed development may have on the natural heritage features on the property and mitigation measures to avoid, minimize, or off-set potential impacts are recommended.

8.1 Impact Assessment

Background review and field investigations revealed that the subject site consists of a predominantly anthropogenic property consistent with the current hospital usage, and natural features straddling the southern property boundary associated with Mary Fix Creek. Natural heritage and hazard features include the watercourse, fish habitat, meander belt (an erosion hazard), floodplain, and a significant woodland.

8.1.1 Impacts on Mary Fix Creek Corridor/NHS

The existing hospital development overlaps and encroaches within the regulatory floodline, staked dripline, and meander belt setback. The proposed redevelopment along the southwestern property line will follow the existing developed limit to the extent possible and will not encroach further into the natural features or natural hazards associated with Mary Fix Creek. There are very small areas where staked dripline of the Significant Woodland overlaps with a proposed road. In these locations, there are existing roads and paved surfaces; therefore, no impacts on significant woodland vegetation are anticipated. Additionally, there are slightly larger areas where the Significant Woodland buffer overlap with the proposed parking garage and entrance road. These areas are also currently developed; therefore, the encroachment of the new development into the setbacks/buffers will not result in any additional impact on the buffer or feature. Notwithstanding these encroachments, the proposed development will provide greater separation from the Mary Fix Creek corridor than currently exists, which provides opportunities for NHS enhancement in locations where existing pavement can be removed and restored with native species. Approximately 0.16 ha have been identified along the Mary Fix Creek corridor for potential restoration and enhancement (see **Figure 4**).

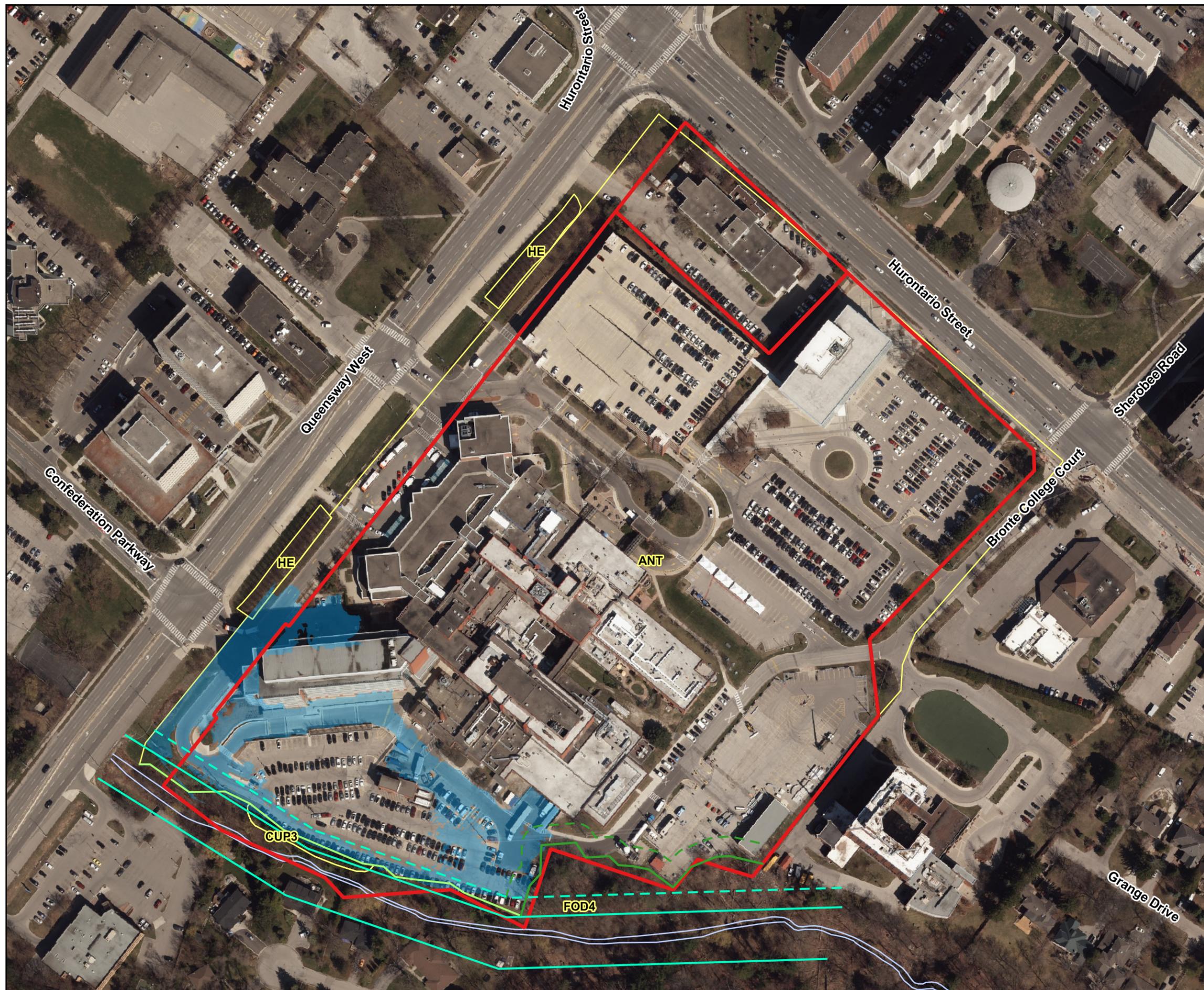
As the proposed development is taking place in a heavily urbanized area and represents a rebuild of an existing development, the re-building of the hospital will not introduce novel adverse impacts to the NHS.

Environmental Impact Study (100 Queensway West & 2250 Hurontario Street, Mississauga)

Legend

- ▭ Subject Property
- ▭ ELC Communities
- Watercourse
- Staked Natural Feature Limit
Dripline of Residential Woodland (CVC August 21, 2019)
- Staked Natural Feature Limit
Dripline of Woodland (CVC August 21, 2019)
- - - Staked Natural Feature Limit
Dripline of Woodland + 10 m
- Meander Belt (to be confirmed)
- - - Meander Belt + 10 m
- ▭ Floodline (CVC 2021)

| ELC Code | Community Description |
|----------|------------------------------|
| ANT | Anthropogenic |
| CUP3 | Coniferous Plantations |
| FOD4 | Dry - Fresh Deciduous Forest |
| HE | Hedgerow |



BEACON ENVIRONMENTAL Project: 218499
Last Revised: December 2021

Client: Trillium Health Parters
Prepared by: BD
Checked by: CS

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Stormwater from portions of the property will be discharged to Mary Fix Creek. Based on current modelling, post-development release rates to Mary Fix Creek will be slightly lower than existing due to a small reduction in drainage area and runoff coefficient; therefore, quantity control will likely not be required (Stantec 2021). Should the drainage boundaries be updated through detailed design and the proposed drainage area or the proposed release rate increase above existing conditions, which may result in the need for onsite quantity controls (Stantec 2021).

The existing SWM outfalls to Mary Fix Creek are on adjacent private property and may need to be upgraded and/or relocated. Additional information regarding the location and design of the outfalls will be required to assess impacts on the May Fix Creek corridor.

8.1.2 Removal of Tableland Vegetation

The Arborist Report (Beacon 2021) identifies the tree loss associated with the proposed hospital redevelopment. All tree removals are associated with the tableland portions of the property within the existing development. No trees are proposed for removal from the adjacent significant woodland or residential woodland (as staked by CVC) associated with Mary Fix Creek.

8.1.3 Temporary or Permanent Disturbance to Urban Tolerant Wildlife

Habitat for a small number of bird species (particularly starlings) and other urban wildlife (such as raccoons etc.) will be disturbed during construction. These species are all common species of urban environments. Once the construction is finished, some or all of these species may return to the site.

The subject site is located in a heavily urbanized area and the proposed redevelopment will not introduce any new disturbances or stressors that could negatively impact wildlife associated with Mary Fix Creek corridor.

8.1.4 Soil Mobilization and Impacts on Aquatic Habitat

Construction works such as grading, grubbing and excavation has the potential to cause the movement of sediment into the woodland corridor and Mary Fix Creek along the southern limits, which can degrade water quality and aquatic habitat. This impact can be mitigated as discussed in the following section.

8.2 Recommended Mitigation Measures

The following sections detail the anticipated impacts of the proposed development and identify mitigation and compensation measures to be utilized to minimize effects of the project.

Impact Avoidance by Design

The proposed redevelopment is entirely situated within an already developed envelope, which, by design, minimizes the potential for negative impacts on the identified natural heritage and hazard features.

Timing of Vegetation Removal

The federal *Migratory Birds Convention Act* (1994) and provincial *Fish and Wildlife Conservation Act* protect the nests, eggs and young of most bird species from harm or destruction. As the breeding bird season in southern Ontario is generally from April to August, the clearing of vegetation (including grasses and shrubs) should ideally occur outside of these periods. Where not possible, for any proposed clearing of vegetation within these dates, or where birds may be suspected of nesting outside of typical dates, an ecologist should undertake detailed nest searches immediately prior to site alteration to ensure that no active nests are present.

Sediment and Erosion Control

Any grading or site alteration related activities should be confined to the established limit of development. Fencing at the limit of development/site alteration should be regularly inspected and maintained in good working order throughout the construction period. Fencing should be removed upon completion of construction after exposed soils have been stabilized. Standard Best Management Practices, including the provision of sediment control measures, should also be employed during the construction process. An Erosion and Sediment Control Plan will be prepared for the subject site.

Lighting

Lighting along the southern and western edges of the proposed development should be directed away from natural features where possible (i.e., existing woodlands and riparian areas) to minimize the impact on adjacent development on the function of these areas.

Tree Preservation

There is potential for damage to occur to trees during construction if proper precautions and protection measures are not implemented. Trees can be negatively impacted through grade changes, soil compaction, root cutting, and mechanical damage to trunks and branches resulting from the operation of construction equipment.

Where trees have been identified for retention, tree protection zones (TPZs) should be established on the ground consistent with tree protection fencing as outlined in the accompanying Arborist Report (Beacon Environmental 2021) prior to the start of construction and shall remain in good condition throughout the duration of all site work. No grading, soil disturbance or surface treatments shall occur within the TPZ. No equipment or materials shall be stored inside the TPZ. If grading or site alteration is required within the TPZs, then an ISA certified arborist should be consulted.

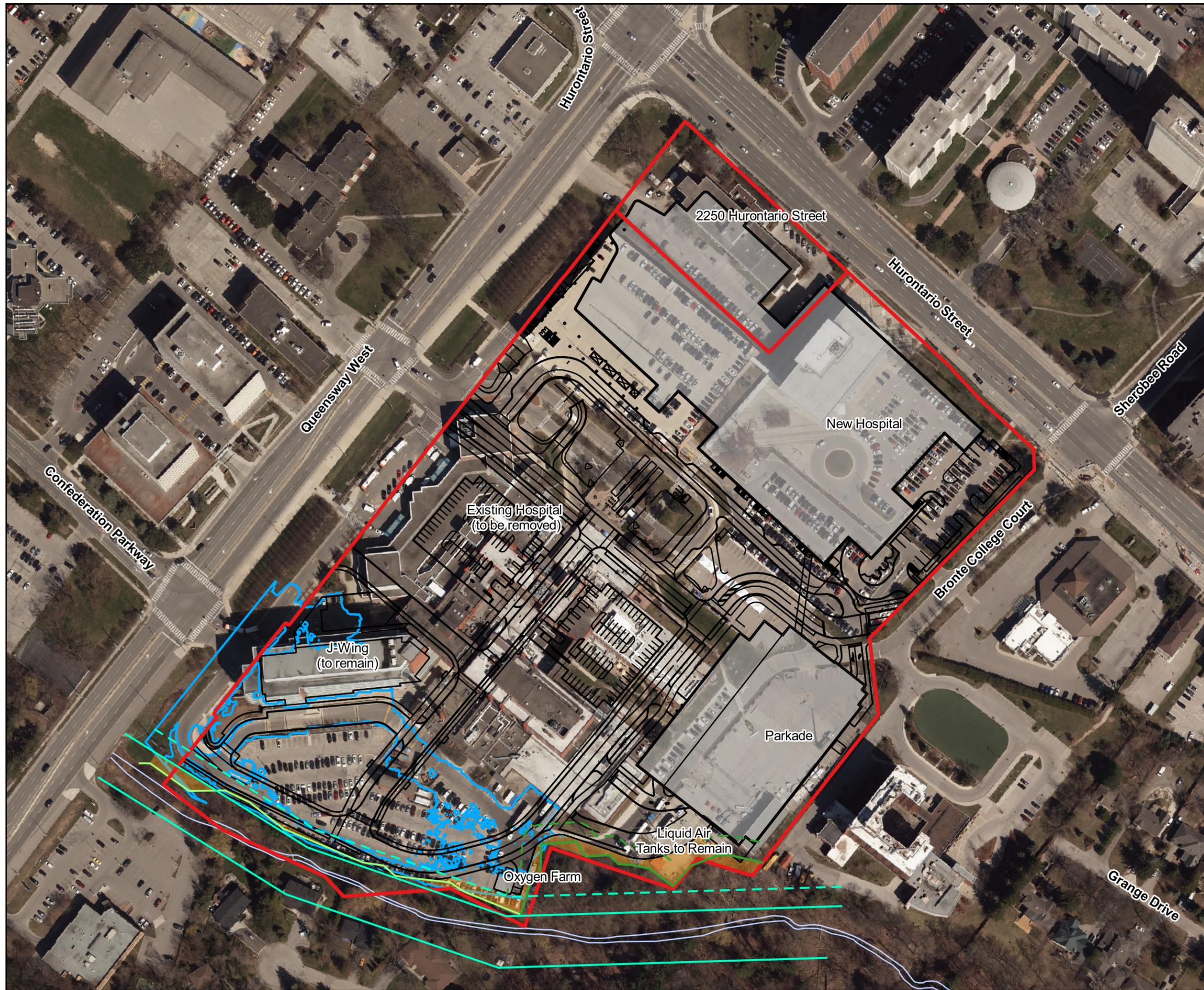
Enhancement Opportunities

It is recommended that the buffer areas adjacent to the new parking garage be restored with native trees and shrubs as illustrated in **Figure 4**. Approximately 0.16 ha (1600 m²) have been identified for potential restoration and enhancement. Plantings in this area will contribute to an overall increase in canopy cover and will strengthen the vegetated buffer to the creek. Installation of a fence at the

Environmental Impact Study (100 Queensway West & 2250 Hurontario Street, Mississauga)

Legend

- Subject Property
- Proposed Development
- Watercourse
- Staked Natural Feature Limit
Dripline of Residential Woodland (CVC August 21, 2019)
- Staked Natural Feature Limit
Dripline of Woodland (CVC August 21, 2019)
- Staked Natural Feature Limit
Dripline of Woodland + 10 m
- Floodline (CVC 2021)
- Meander Belt (to be confirmed)
- Meander Belt + 10 m (Erosion Hazard)
- Potential Restoration Area (0.16 ha)



Note: Restoration Works subject to CVC and City agreement



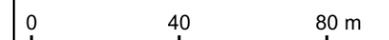
Project: 218499
Last Revised: December 2021

Client: Trillium Health
Partners

Prepared by: BD
Checked by: CS



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development limit is recommend to reduce potential impacts associated with pedestrian access (i.e. trails, trampling).

Stormwater Management

There are currently two stormwater outlets to Mary Fix Creek. Neither of these outlets currently has on-site quality or quantity controls.

Stormwater discharge from the site should meet the following criteria (Stantec 2021):

- *Quantity Control – Control post-development release to pre-development levels for all storm events. If proposed stormwater release rates will increase above existing conditions, additional controls may be required based on consultation with the CVC.*
- *Quality Treatment – 80% long term total suspended solids (TSS) removal to be achieved, preferably with a treatment train approach.*
- *Retention – 3mm of retention via infiltration is required. 5mm of onsite retention via infiltration is recommended. The use of low impact development (LID) and green infrastructure (GI) is encouraged. Best efforts are acceptable.*

With regard to storm water discharge to Mary Fix Creek, modelling conducted by Stantec (2021) confirmed that the stormwater quantity control design criteria can be achieved in proposed conditions with no quantity control required; however, should the drainage boundaries be updated through detailed design and the proposed drainage area or the proposed release rate increase above existing conditions, then there may be a need for onsite quantity controls subject to discussions with CVC.

Stormwater quality treatment for the Site will generally be provided by oil grit separator (OGS) units sized to provided 80% long term TSS removal.

A number of Low Impact Design (LID) and Green Infrastructure (GI) features have been identified by Stantec (2021) for potential use on the Subject Site to promote stormwater retention and infiltration, including:

- Amended topsoil;
- Bioretention galleries;
- Dry swales;
- Enhanced grass swales;
- Green roofs; and
- Infiltration trenches.

As discussed previously, the existing SWM outfalls to Mary Fix Creek are on private property and may need to be upgraded and/or relocated. Any disturbance caused to the creek corridor will require restoration and the new outfalls will require erosion protection (e.g., plunge pools) (Stantec 2021).

To protect fish habitat, if in-water works are required to relocate the outfalls, then the warmwater timing window should be observed (i.e. no in-water work between March 15 and July 15).

9. Policy Conformity

A summary of federal, provincial and municipal environmental protection and planning policies and regulations applicable to the Subject site were discussed in **Section 2**. An evaluation of how the proposed re-development complies with the applicable policies and legislation is summarized in **Table 1**.

Table 1. Policy Compliance Assessment

| Applicable Policy / Legislation | Relevant EIS Findings and Recommendations | Policy Compliance |
|--|--|---|
| Federal Fisheries Act (1985) | Mary Fix Creek adjacent to the subject site is identified as fish habitat. | If appropriate measures are put in place, it is anticipated that there will be no change to the stormwater outputs that would negatively affect the fish habitat. The Site Plan presents an opportunity to improve the quality of stormwater out letting to the creek, thus improving fish habitat. No in-water work should be undertaken between March 15 and July 15. |
| Endangered Species Act (2007) | No habitat for threatened or endangered species is associated with the subject property. | NA |
| Provincial Policy Statement (2020) Section 2.1 – Natural Heritage | | |
| 1. Habitat for Threatened and Endangered Species | See above. | See above. |
| 2. Significant Valleylands | The Mary Fix Creek corridor may qualify as a significant valleyland based on the Mississauga OP definition | The limit of the valley land was defined based on the meander belt for Mary Fix Creek. Aside from potential upgrades to existing SWM outfall, no development is proposed within the valleyland. No impacts are anticipated provided that the mitigation and enhancement recommendations are implemented. |
| 3. Significant Wetlands | Not applicable – There are no Significant Wetlands in the study area. | NA |
| 4. Significant Woodlands | There is one Significant Woodland adjacent to the study area. A few square metres of woodland canopy overlap an already paved area. The woodland will be protected. Slight encroachment from the parkade will occur within the staked dripline at the southwest corner of the property where the dripline extends over existing | No impacts on the significant woodland are anticipated provided that the mitigation and enhancement recommendations are implemented. |

| Applicable Policy / Legislation | Relevant EIS Findings and Recommendations | Policy Compliance |
|--|---|---|
| | <p>pavement. No impacts on the significant woodland are expected to result from this.</p> <p>Development is proposed within the 10 m buffer. The buffer area is currently paved where redevelopment is proposed. The Site Plan will not result in any additional impact to the woodland than currently exists.</p> | |
| 5. Significant Wildlife Habitat | There is no Significant Wildlife Habitat associated with the subject site. | NA |
| 6. Significant Areas of Natural and Scientific Interest | There are no Areas of Natural or Scientific Interest in the study area. | NA |
| 7. Fish Habitat | Mary Fix Creek adjacent to the subject site is identified as fish habitat. | If appropriate measures are put in place, it is anticipated that there will be no change to the stormwater outputs that would negatively affect the fish habitat. The proposed redevelopment presents an opportunity to improve the quality of stormwater out-letting to the creek, thus improving fish habitat. If existing outfalls require replacement, no in-water work should be undertaken between March 15 and July 15. |
| Region of Peel Official Plan (2018) | <p>The Regional Greenlands System consists of “Core Areas”, “Natural Areas and Corridors (NAC)”, and “Potential Natural Areas and Corridors (PNAC)”.</p> <p>There are no Core Areas on or adjacent to the site. For NACs and PNACs the Region defers to the City and CVC.</p> | The Mary Fix Creek corridor may qualify as an NAC or PNAC. The creek corridor is being protected and enhanced. |
| Mississauga Official Plan (2019) | | |
| 1. Natural Heritage System | <p>No components of the municipal NHS were located on the subject site. However, the wooded areas associated with Mary Fix Creek support two components of the City's NHS: Significant Natural Area (in the form of a Significant Woodland) and Residential Woodland. These woodlands border the property.</p> <p>The Site Plan essentially occurs outside of these features, but not outside of the Significant Woodland buffer, which is already developed.</p> | <p>No development is proposed within natural heritage features. The NHS associated with the Mary Fix Creek corridor is being protected and enhanced. The Site Plan will provide greater separate from the valley than currently exists.</p> <p>The Site Plan is unlikely to negatively impact these woodlands, as the buffer area is already disturbed and paved, and the woodlands themselves are somewhat disturbed and adapted to the urban context.</p> |
| 2. Natural Hazard Lands | The meander belt associated with Mary Fix Creek borders the subject site. All | The proposed is located outside the meander belt. Some roadways will be within the 10 m setback to the meander |

| Applicable Policy / Legislation | Relevant EIS Findings and Recommendations | Policy Compliance |
|-------------------------------------|---|---|
| | proposed structures will be located outside the natural hazard land. | <p>belt, where there is an existing parking / paved surfaces. Portion of the setback that are currently paved will be replaced with soft landscaping and/or naturalized with native species; resulting in an improvement to the existing conditions.</p> <p>It is our understanding that the floodline location will be changed and improved during later stages of the redevelopment, which will be subject to CVC approval.</p> |
| CVC Regulations and Policies | CVC regulates wetlands and hazard lands including the meander belts of watercourses and floodplains. The southwestern portion of the property overlaps with the Mary Fix Creek floodplain. No new structures are proposed within the proposed regional floodplain, with the exception of the Relocated Oxygen Farm There are some existing structures, as well as parking areas within the floodline. | See above re: hazard lands. |

10. Conclusion

Trillium Health Partners is proposing to redevelop their existing hospital facility and grounds located at 100 Queensway West as well as adjacent lands at 2250 Hurontario Street in Mississauga. The proposed redevelopment consists of a 24-storey hospital, an expanded 8-storey parkade, and the removal of the existing hospital (except J-Wing).

The subject site currently contains the existing Mississauga Hospital, a 5-storey parking garage, 7-story administration building, surface parking, and other associated facilities. The Mary Fix Creek corridor, including its meander belt and associated vegetation are located along the south/west property limit. The Mary Fix Creek corridor is part of the City’s Natural Heritage System. Buffers and setbacks were applied to the significant woodland dripline and meander belt. Generally, the buffers overlap existing developed lands (primarily paved parking lots).

This EIS describes the natural heritage features and ecological functions associated with the property and surrounding area, the constraints associated with these features, assesses the potential direct and indirect impacts of the proposed re-development on these features and functions, and recommends mitigation and enhancement measures to avoid or minimize impacts.

The proposed redevelopment adjacent to the Mary Fix Creek corridor will generally follow the existing development limit. A proposed road and parking garage are located within the identified 10 m buffer/setback to the woodland; however, because the buffer overlaps with existing development, the

proposed redevelopment is not expected to result in any additional impacts to natural heritage features. Overall, the proposed redevelopment will provide greater separation from the Mary Fix Creek corridor than currently exists, which provides opportunities for NHS enhancement in locations where existing pavement and lawn can be removed and restored with native species (approximately 0.16 ha). The proposed redevelopment of the hospital lands will also integrate stormwater quality controls, which will further benefit the NHS.

In summary, the proposed redevelopment is not expected to result in negative impacts on the NHS provided the mitigation and enhancement recommendations identified in this report and companion studies (FSSR, Hydrogeology) are implemented.

Report prepared by:
Beacon Environmental



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Report prepared by:
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ISA Certified Arborist (ON-1536A)

Report reviewed by:
Beacon Environmental



Ken Ursic, B.Sc., M.Sc.
Principal, Senior Ecologist

11. References

CVC 2014.

Credit River Estuary Species at Risk Estuary Species at Risk Research Project. March 31, 2014 by Credit Valley Conservation.

Clayton, J. 2011.

Lake Ontario integrated shoreline strategy background review and data gap analysis – Appendix G: Aquatic natural heritage final report. Retrieved December 6, 2013, from <http://www.creditvalleyca.ca/wp-content/uploads/2012/03/LOISS-Background-Report-APP-G-Aquatic-Natural-Heritage1.pdf>

Lee, H.T., W.D. Bakowsky, J. Riley, J. Bowles, M. Puddister, P. Uhlig and S. McMurray. 1998.

Ecological Land Classification for Southern Ontario: First Approximation and Its Application. Ontario Ministry of Natural Resources. SCSS Field Guide FG-02. 225 pp.

North South Environmental Inc. (NSEI) and City of Mississauga. 2013.

Natural Areas Fact Sheet CV 10.

Ontario Ministry of Natural Resources. 2000.

Significant Wildlife Habitat Technical Guide. October 200.

Ontario Ministry of Natural Resources. 2010.

Natural Heritage Reference Manual for Natural Heritage Policies of the Provincial Policy Statement, 2005. Second Edition. March 18, 2010.

Ontario Ministry of Municipal Affairs and Housing (MMAH). 2020.

Provincial Policy Statement. Toronto, Ontario.

MTE. 2021.

Mississauga Hospital Parking Structure Functional Servicing and Stormwater Management Report. November 12, 2021.

Appendix A

EIS Terms of Reference

December 17, 2020

BEL 218499

Michael Hynes, Planner,
Community Services,
City of Mississauga

Via Email: michael.hynes@mississauga.ca

Lisa Hosale,
Planner,
Credit Valley Conservation

Via Email: lisa.hosale@cvc.ca

Re: Terms of Reference for Scoped Environmental Impact Study (EIS), THP Broader Redevelopment Project – M Site, City of Mississauga

Dear Michael and Lisa:

Beacon Environmental Limited (Beacon) has prepared the following Terms of Reference (ToR) for a scoped Environmental Impact Study (EIS) in support of a proposed Trillium Health Partners (THP) Broader Redevelopment Project – M Site, situated at 100 Queensway West and 2250 Hurontario Street in the City of Mississauga, herein to be referred to as the subject property. The limits of the subject property are visually depicted on **Figure 1**.

Beacon previously issued a ToR summary via e-mail where both the CVC and City provided comments. The document has integrated this input provided by these agencies. The City of Mississauga's EIS ToR guidelines (2002) were reviewed in developing this revised document.

The City's Natural Heritage System (NHS) borders the subject property to the south corresponding with a wooded valleyland associated with Mary Fix Creek. Based on this, the property is regulated by the Credit Valley Conservation Authority (CVC) and an EIS is required with the ultimate objective of exemplifying no negative impact to the natural system through the proposed redevelopment. The subject property is currently almost entirely built up with an active hospital complex and is situated within the Region of Peel.

Beacon will prepare an EIS including the following key components:

- Background/Context;
- Comprehensive Natural Heritage Policy Review (Provincial Policy Statement, City of Mississauga, Region of Peel, CVC policies, *Endangered Species Act*);
- Identification of Natural Heritage Features and Functions (includes summary of field investigations along with figures);
- Description and Figure of Proposed Development;
- Impact Identification and Analysis;

- Response to Impacts;
- Policy Conformity Analysis; and
- Conclusion/Recommendations.

In preparing the scoped EIS, Beacon proposes to undertake or has already undertaken the following tasks:

Background Review

Beacon will complete a review of various background information sources and companion studies pertaining to the property including, but not limited to:

- Natural Heritage Information Centre (NHIC) database;
- Desktop review of relevant natural heritage policy;
- An early 2019 screening for Species at Risk with the Ministry of Natural Resources and Forestry (MNRF) was done; internal Species at Risk screening; and consultation with Ministry of the Environment, Conservation and Parks (MECP) staff if required; and
- Aerial photography and topographic maps.

Field Investigations

Agency Site Walk and Feature Staking (Completed 2019)

A feature staking exercise took place on August 21, 2019 by CVC staff in the presence of representatives from the City, the client representatives as well as Beacon staff. A wooded dripline was staked along the south-western property boundary.

Ecological Land Classification and Floral Survey (Completed 2019)

Vegetation communities on the property will be mapped and described according to the Ecological Land Classification (ELC) system (Lee et al 1998), which is the current standard methodology for classifying ecosystems in southern Ontario. Vegetation communities will be illustrated on an aerial photography of the site and pertinent information regarding the structure and composition of the communities will be documented.

A botanical inventory will be compiled and will include a search for Butternut (*Juglans cinerea*) trees, and any other Species at Risk plant. Common and urban tolerant species are anticipated based on the urbanized setting.

Watercourse Assessment (Completed 2019)

CVC noted that a headwater drainage feature assessment is not appropriate for this property. Thus, an exercise involving studying the characteristics of the watercourse situated adjacent to the southwest of the subject property is more appropriate.

Breeding Bird Surveys (Completed 2019)

Two seasonally timed breeding bird surveys were undertaken by a trained avian ecologist using a roving methodology whereby staff walked the subject property and recorded bird observations on orthophotographs. This is a standard method used by Beacon and accepted by most agencies. Observations including vocalizing species, evidence of nesting behaviour and birds feeding on the property.

Screening for Endangered and Threatened Species (Completed 2019)

A targeted search for species protected by the *Endangered Species Act* (ESA) and potential habitat was undertaken, with particular consideration for wildlife known to occur in urban environments. Should suitable habitat be identified, subsequent field studies will be scoped and undertaken as required to ensure any proposed works will be in conformity with the ESA.

Incidental Wildlife Observations (Completed 2019)

During the site visit surveys, incidental wildlife observations were recorded and will be included in the EIS.

Reporting and Analysis

The EIS report will summarize the findings of the background review and field investigations, assess the function and significance of natural heritage features, evaluate impacts of the proposed development, recommend mitigation and enhancement opportunities, and assess conformity with provincial, municipal, and conservation authority policies and regulations. The EIS will be prepared according to the following outline:

Introduction – This section of the report will include introductory remarks regarding the purpose and scope of the study, a general description of the site and the site location, and a brief description of the proposed development.

Policy Review – The report will include a summary of applicable provincial, municipal and conservation authority natural heritage policies and legislation, and their relevance to the property, including the Provincial Policy Statement, City of Mississauga Official Plan, Region of Peel Official Plan, the ESA and CVC policies and regulations. The City's Natural Area Survey designation for the subject property will be reviewed and included under the municipal policy discussion.

Methodology – This section of the report will include a description of the methods used to characterize the site’s natural heritage features and functions. A list of background information sources consulted as well as details of all field work dates and assessments will be included.

Findings – The report will provide a detailed description of existing conditions based on the results of the background review and field investigations. We will characterize existing biophysical resources on the subject property, including wildlife and vegetation communities using available information from relevant background resources and field work. All other field studies will be summarized and integrated here along with a figure depicting the existing site conditions.

Description of Proposed Development – This section of the report will provide a description and map of the proposed development.

Impact Assessment – This section will evaluate potential direct and indirect impacts of the proposed development on the natural heritage features and ecological functions on/adjacent to the subject property. A discussion on applied buffers and setbacks will be included as well.

Mitigation and Enhancement Recommendations – This section of the report will recommend mitigation measures to prevent, minimize, or off-set any identified impacts to natural heritage features. Potential restoration opportunities will be explored for suitability at this location.

Policy Conformity - We will review the proposed development with respect to applicable provincial, municipal and conservation authority policies and regulations.

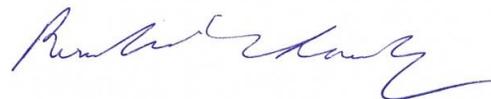
We propose that the approach described above be used to as Terms of Reference for the EIS. Should you have any comments or questions, please do not hesitate to contact the undersigned at rchaundy@beaconenviro.com or (905) 201-7622 x230(Chaundy).

Prepared by:
Beacon Environmental



Chana Steinberg, B.Sc. (Hons).
Ecologist

Reviewed by:
Beacon Environmental

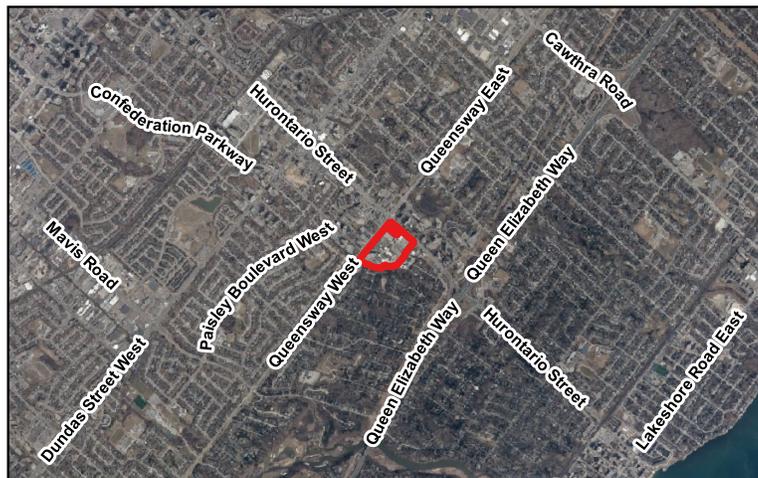
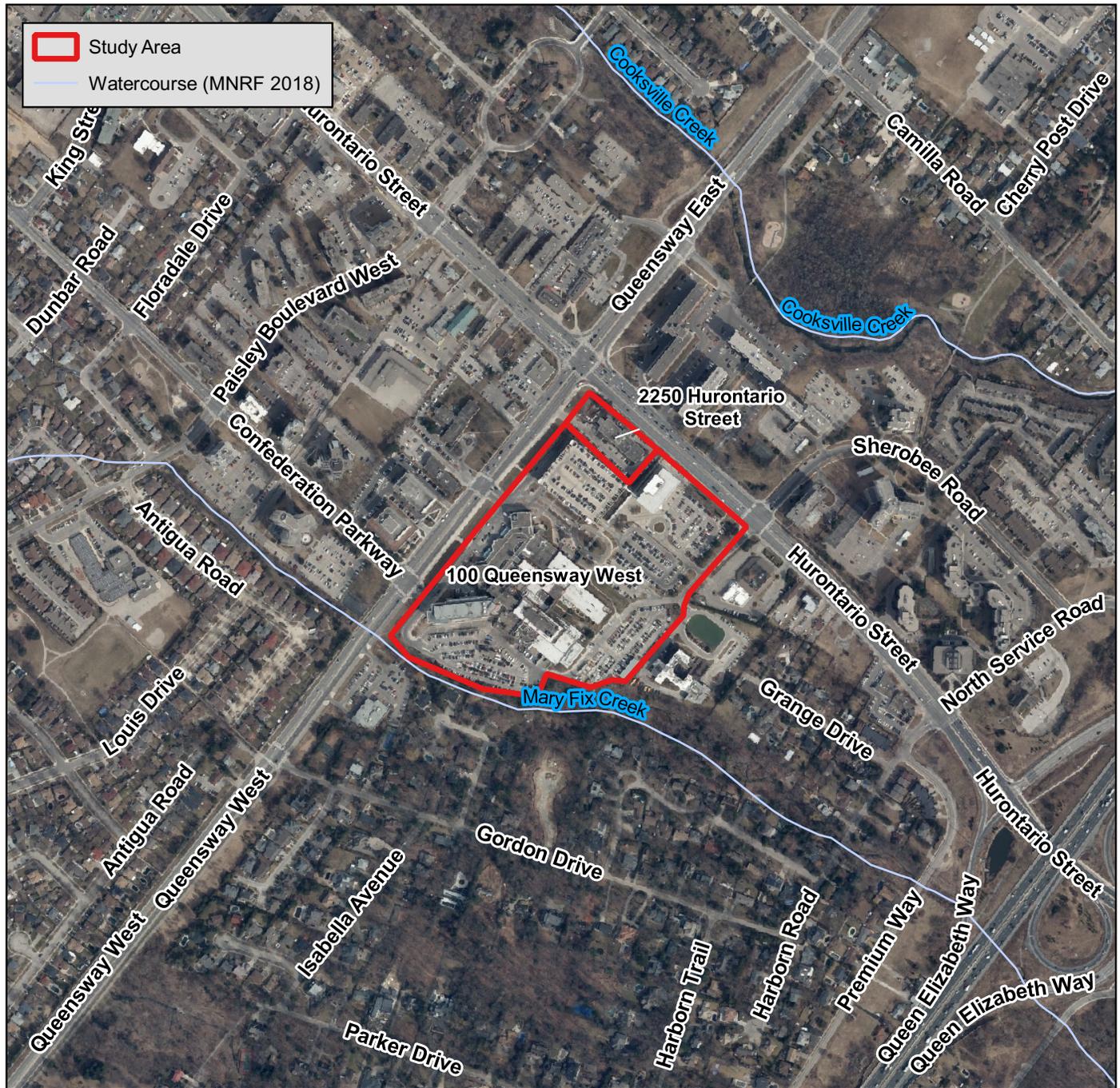


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| | | |
|---|---------|--|
| Site Location | | Figure 1 |
| Trillium Queensway Mississauga NHS | | |
|  | | Project: 218499 Last Revised: December 2020 |
| Client: Trillium Health Partners | | Prepared by: BD Checked by: |
|  | 1:8,000 | Inset Map: 1:65,000 |
| Contains information licensed under the Open Government License—Ontario Orthoimagery Baselayer: 2018 (FBS) | | |